halyards, or any other supporting elements.

(d) The radiotelephone installation must be provided with a device for permitting changeover from transmission to reception and vice versa without manual switching.

(e) An artificial antenna must be provided to permit weekly checks, without causing interference, of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency.

(f) The radiotelephone installation must be located in the radiotelegraph operating room or in the room from which the ship is normally steered.

(g) Demonstration of the radiotelephone installation may be required by Commission representatives to show compliance with applicable regulations.

(h) The radiotelephone installation must be protected from excessive currents and voltages.

(i) The radiotelephone installation must be maintained in an efficient condition.

[51 FR 31213, Sept. 2, 1986. Redesignated and amended at 68 FR 46973, Aug. 7, 2003]

§ 80.269 Technical requirements for radiotelephone distress frequency watch receiver.

(a) The radiotelephone distress frequency watch receiver is comprised of a receiver, a loudspeaker and a radiotelephone auto alarm device.

(b) The radiotelephone distress frequency watch receiver must meet the following requirements:

(1) The receiver must be capable of being switched to 2182 kHz and of receiving signals of at least A2A and A2B emissions;

(2) The receiver sensitivity must provide a SINAD of 20 dB at the audio output when a 30 microvolt signal with A2A or A2B emission modulated 30% at 400 Hz is applied to the receiver RF terminals;

(3) The audio output of the receiver must be at least 50 milliwatts at the rated load impedance;

(4) The receiver must be provided with an auto alarm device which mutes the receiver (silences the loudspeaker) unless the radiotelephone alarm signal or the signal preceeding a vital navigational warning is received. When the auto alarm is activated the receiver audio output level must be louder than the output level of the received speech signal. Additionally, the receiver must meet the following requirements:

(i) When the receiver is muted its audio output power must be less than 1 milliwatt;

(ii) If tone filters are used to process the 1300 Hz and 2200 Hz tones the tolerance of their center frequency must be ±1.5 percent of the alerting frequency. The response must be flat within 6 dB to ±3% of the center frequency of the filters; and

(iii) The receiver must not be unmuted by atmospherics or by strong signals other than the radiotelephone alarm and the vital navigational warning signal.

(5) The receiver must be unmuted within 4 to 6 seconds when a double sideband alarm signal modulated at 70% is applied at its input terminals at a level which produces a SINAD of 10 dB under the following conditions:

(i) For radiotelephone alarm the signal must be modulated sequentially by a 1300 ±20 Hz tone and a 2200 ±35 Hz tone. The duration of each tone must be 250 ±50 milliseconds and the period between each tone must not exceed 50 milliseconds; and

(ii) For navigational warning the signal must be modulated by a 2200 ±35 Hz tone and the modulated carrier must be turned "on" for 250 ±50 milliseconds and then "off" for 250 ±50 milliseconds.

(6) The receiver must not be unmuted when a double sideband signal of 70 dB above the receiver measured sensitivity, modulated at 70% by a 2200 ±35 Hz tone with the following durations is applied at its input terminals:

(i) "On" periods of less than 175 milliseconds or more than 325 milliseconds followed by "off" periods of any duration; and

(ii) "Off" periods of less than 175 milliseconds or more then 425 milliseconds followed by "on" periods of any duration.

(7) The controls listed below must be provided on the exterior of the equipment:

(i) On/off switch with a visual indication that the device is on;

(ii) Volume control to adjust the audio output;

(iii) Control for dimming any light on the equipment;

(iv) Control for switching the auto alarm in and out of operation; and

(v) Control to manually reset the auto alarm to muted condition.

(8) The receiver must operate within specifications throughout the temperature range 0–50 degrees Celsius at relative humidities as high as 95%.

(9) The receiver must be capable of operating when subjected to vibrations having a frequency between 20 and 30 Hertz and an amplitude of 0.76 mm (0.03 inch) in a direction at an angle of 30 to 45 degrees with the base of the auto alarm.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44952, Aug. 25, 1993; 68 FR 46966, Aug. 7, 2003]

§ 80.271 Technical requirements for portable survival craft radiotelephone transceivers.

(a) Portable survival craft radiotelephone transceivers must comply with the following:

(1) The transceivers must receive and transmit either on 457.525 MHz or on 156.800 MHz;

(2) The receiver must comply with the requirements in part 15, subpart C of this chapter and must have a sensitivity of not more than 2 microvolts. The sensitivity requirement must be met using the receiver sensitivity measurement procedure specified in the Radio Technical Commission for Marine Services (RTCM) Special Committee No. 66 Report MMS–R2;

(3) The effective radiated power of the transmitter must be at least 0.1 watt;

(4) The transceivers must be battery powered and operate for at least four hours with a transmit to receive ratio of 1:9 with no significant adverse effect upon the performance of the device;

(5) The transceivers must have a permanently attached waterproof label with the statement "Complies with the FCC requirements for survival craft two-way radiotelephone equipment"; and

(6) The antenna must be permanently attached to the device or its removal must require the use of a special tool.

(b) Portable radiotelephone transceivers that are already certificated may be used to satisfy the survival craft radiotelephone requirement until October 1, 1993, provided the device meets the technical requirements in paragraphs (a) (1) through (3) of this section.

(c) Survival craft radiotelephone equipment installed after October 1, 1988, must be certificated to meet the requirements of this section.

(d) After October 1, 1993, all portable radiotelephone transceivers that are used to satisfy the survival craft radiotelephone requirement must have been certificated to meet the requirements of this section.

(e) Portable radiotelephone transceivers which are type accepted to meet the requirements of this section must be identified by an appropriate note in the Commission's database.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36607, July 7, 1998]

§ 80.273 Technical requirements for radar equipment.

(a) Radar installations on board ships that are required by the Safety Convention or the U.S. Coast Guard to be equipped with radar must comply with either the document referenced in paragraph (a)(1) of this section or the applicable document referenced in paragraphs (a)(2) through (4) of this section. These documents contain specifications, standards and general requirements applicable to shipboard radar equipment and shipboard radar installations. For purposes of this part the specifications, standards and general requirements stated in these documents are mandatory irrespective of discretionary language. The standards listed in paragraphs (a)(1), (2), (3), and (4) of this section are incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of these standards can be inspected at the Federal Communications Commission, 445 12th Street, SW., Washington, DC (Reference Information Center) or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go